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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,377	02/13/2001	Vladimir M. Segal	30-5022(4015)	2320

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EXAMINER
WESSMAN, ANDREW E

ART UNIT	PAPER NUMBER
1742	6

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF 6

Office Action Summary	Application No.	Applicant(s)	
	09/783,377	SEGAL ET AL.	
	Examiner	Art Unit	
	Andrew E Wessman	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-31 is/are pending in the application.

4a) Of the above claim(s) 1-20 and 29-31 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 21-28 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-31 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-20, drawn to a method, classified in class 419, subclass 67.

   II. Claims 21-28, drawn to a target composition, classified in class 148, subclass 437.

   III. Claims 29-31, drawn to a film, classified in class 428, subclass 650.

2. The inventions are distinct, each from the other because:

3. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by another materially different process such as by placing the same aluminum powder composition into a mold and forming the target rather than the claimed method of using equal channel angular extrusion.

4. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions differ in that group I is the method to form a target and not a method to form the claimed film of group III.

5. Inventions II and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as an evaporation source instead of the claimed use as a sputtering target to form the invention of claim III and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with David Latwesen on April 17, 2002 a provisional election was made without traverse to prosecute the invention of group II, claims 21-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-20 and 29-31 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunlop et al. (U.S. Patent No. 5,809,393).

Dunlop et al. anticipates the invention as claimed. Dunlop et al. discloses (col. 4, lines 22-34) an aluminum sputtering target that may contain amounts of up to 10wt% of copper, silicon, zirconium, titanium, tungsten, platinum, gold, niobium, rhenium, scandium, cobalt, molybdenum, and hafnium. Dunlop et al. also discloses that aluminum with minor additions of additive elements is functional in the invention, and teaches aluminum with 0.5wt% copper or zirconium (see figures 3, 4, and 9). Therefore, the claimed dopant range of less than 1000ppm is cleary within Dunlop et al.'s range. Dunlop et al. also discloses (col. 4, lines 16-21) that such sputtering targets have grain sizes of less than about 20 microns for an aluminum based target.

In regards to the feature of claim 22, Dunlop et al. discloses (col. 4, lines 16-21) a grain size of less than 20 microns for an aluminum sputtering target.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 23-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. in view of Ueda et al. (U.S. Patent No. 5,541,007).

The teachings of Dunlop et al. are discussed in above paragraph 10.

Dunlop et al. does not specifically teach additions of amounts as small as 100ppm of additives into the alloy.

Ueda et al. teaches additions of 0.01 to 1.0wt% of scandium, silicon, hafnium, or titanium to aluminum alloy sputtering targets (see abstract). Ueda et al. also teaches that such a material is useful for making wire which is resistant to breakage.

It would have been obvious to one of ordinary skill in the art to add the amounts of scandium, silicon, hafnium or titanium taught by Ueda et al. to a sputtering target taught by Dunlop et al., because one would expect to create a sputtering target with small grain size as taught by Dunlop et al. that would be useful for creating a wire material with resistance to breakage, as taught by Ueda et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew E Wessman whose telephone number is (703)305-3163. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703)308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

AEW
April 22, 2002